

Date: Friday, 5/25/2007 8:17:34 AM
User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : MID TUBE ASSEMBLY
Job Number : 32591	
Estimate Number : 11446	
P.O. Number :	Part Number : D3391013
This Issue : 5/25/2007 S.O. No. :	Drawing Number : D3391 REV. <i>F</i>
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : LANDING GEAR	Drawing Revision : <i>F</i>
Previous Run :	Material :
Written By :	Due Date : 6/20/2007 Qty: 1 Um: Each
Checked & Approved By : <i>JA 07.05.28</i>	
Comment :	
Est. A 05.12.13 New Issue EC	
Est. B 06.02.09 Dwg rev.D EC	
Est Rev:06-03-28 Update Manufacturing Instructions JLM	
est rev D 07.03.14 dwg Rev F EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	D25001100	Skidtube Extrusion
-----	-----------	--------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

SKIDTUBE EXTRUSION

Pick:

Qty	Part Number	Description
1	D2500-1-100	Extrusion

Batch

B24593

DP 7-7-13

2.0	D3391011	Fwd Tube Assembly
-----	----------	-------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Fwd Tube Assembly

Batch:

N/A

tube was scrap

3.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
-----	----------------	-------------------------



Comment: LANDING GEAR RESOURCE 1

1-Cut tube to finish length as per Dwg D3391

2-Drill pilot holes including "B" holes using DT8796 as per Dwg D3391

3-Open float bag holes as per Dwg D3391

4-C'sink float bag holes as per Dwg D3391

5-Open remaining holes as per dwg D3391

6- Locate electric step holes *41.500"* from fwd end and drill using DT 8393

***** ensure step holes are on top of tube not bottom Pat*****

CE

DP 7-7-13
DP 7-7-19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Job Number: 32591

Part Number: D3391013

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

- | | | |
|-----|---|--|
| 7- | Open electric step holes 0.332" per dwg D3391 (section L-L) | |
| 8- | Open electric step holes 0.250" per dwg D3391 (section M-M) | |
| 9- | Open electric step holes 0.250" per dwg D3391 (section LL-LL) | |
| 10- | Remove .030" from Fwd indexing Ridge as per Dwg D3391 | |
| 11- | Remove indexing ridge on Fwd & Aft end of skidtube as per Dwg D3391 | |
| 12- | Deburr | |
| 13- | Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.208" holes with paint marker | |
| 14- | Open wearplate holes of D3391-013 assembly detail section G-G to Ø0.250" (14 holes) as per Dwg D3391 | |
| 15- | Open wearplate holes of D3391-013 assembly detail section H-H to Ø0.257" and c'sink (20 holes) as per Dwg D3391 | |
| 16- | Open .375" holes to .438" | |
| 17- | insert D3391-011 and clico in place with wearplate holes, transfer drill saddle holes as per dwg D3391. | |
| 18- | Deburr and blow out all chips from inside tube | |

DD
7-7-19
870

4.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1
Chemical Conversion Coat as per QSI 005 4.1
Touch-up alodine in D3391-011

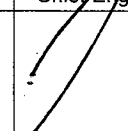

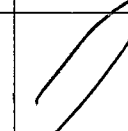
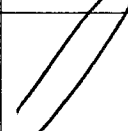
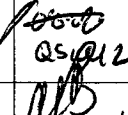
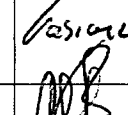
6.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: PCR 08-13 PAR 08-004 NCR: Yes No DQA: 10 Date: 08/02/22
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08-02-20	3.0	New holes in incorrect location @ Ht. 12.5 location.		See NCR / PAR See NCR 08-013 PAR 08-004 - Scraps Destroyed.		08-02-20		
			 08/02/21				 08/02/21	

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Job Number: 32591

Part Number: D3391013

Job Number:



Seq. #: Machine Or Operation: Description :

7.0 D33891 Web



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEB

Pick:

Qty	Part Number	Description	Batch
1	D3389-1	Web	_____
A/R		Sikaflex-241/-291	_____
		Sikaflex expire date:	_____

Start: _____ Time: _____

Finish: _____ Time: _____

8.0 LANDING GEAR 1 LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Bond web in place as per Dwg D3391 & QSI 015.

Adhere for 12 hours)

*****Ensure Web Alignment *****

9.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Inspect each insert using DT8821

10.0 POWDER COATING POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

Use paint screws to mask inserts.

11.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

12.0 NAS1330C3KB116 Insert



Comment: Qty.: 24.0000 Each(s)/Unit Total : 24.0000 Each(s)

Insert

Pick:

Qty	Part Number	Description	Batch
24	NAS1330C3KB116	Insert	_____

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 32591

Part Number: D3391013

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

NAS1330C3KB166

INSERT



Comment: Qty.: 24.0000 Each(s)/Unit Total : 24.0000 Each(s)

RivnuT

Pick:

Qty Part Number

Description

Batch

24

NAS1330C3KB166

Insert

14.0

NAS1329C4KB140

INSERT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

24

NAS1329C4KB140

Insert

15.0

NAS1515H3L

WASHER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty

Part Number

Description

Batch

4

NAS1515H3L

Washer

16.0

AN960C10L

washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty

Part Number

Description

Batch

4

AN960C10L

Washer

17.0

NAS1515H4L

Inventory



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty

Part Number

Description

Batch

4

NAS1515H4L

Washer

18.0

AN960C416L

WASHER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty

Part Number

Description

Batch

4

AN960C416L

Washer

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

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Job Number: 32591

Part Number: D3391013

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

MS27039C109

SCREW



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number Description Batch

4 MS27039C1-09 Screw

20.0

MS27039C408

SCREW



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number Description Batch

4 MS27039C4-08 Screw SCREW

21.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Assemble as per dwg D3391

22.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

23.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

24.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



2008/2/22



2008/02/22

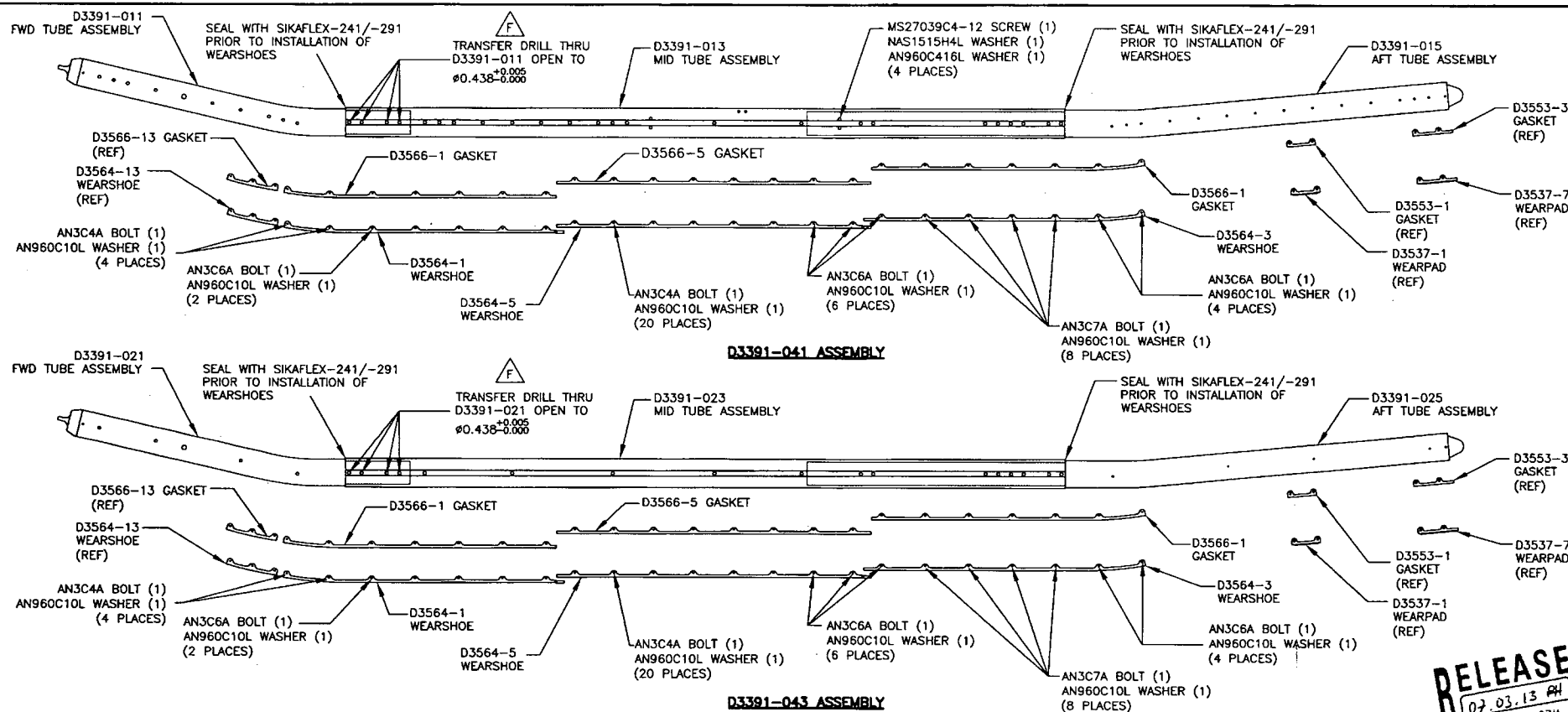
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	QTY -043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
1	1	D3391-021	FWD TUBE ASSEMBLY
1	1	D3391-023	MID TUBE ASSEMBLY
1	1	D3391-025	AFT TUBE ASSEMBLY
1	1	D3564-1	WEARSHOE
1	1	D3564-3	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
24	24	AN3C4A	BOLT
12	12	AN3C6A	BOLT
8	8	AN3C7A	BOLT
44	44	AN960C10L	WASHER
4	4	MS27039C4-12	SCREW
4	4	NAS1515H4L	WASHER
4	4	AN960C416L	WASHER

GENERAL NOTES

- 1) ALL DIMENSIONS ARE IN INCHES
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 4) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 'E' SIZE HOLES (Ø0.250-Ø0.257) FOR WEARSHOE INSERTS. C'SINK Ø0.391/Ø0.425 x 100" AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.

WORK ORDER
22591
SUBJECT TO AMENDMENT
WITHOUT NOTICE
CONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY

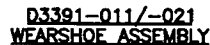
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DESIGN	PH	DRAWN BY	PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, MA
CHECKED	#	APPROVED	#	DRAWING NO. D3391
DATE	07.01.18	TITLE	412 FLOAT SKIDTUBE	REV. F SHEET 1 OF 5 SCALE NTS

RELEASED
07.03.13 PH
FOR ECU #934

07.03.13 RH



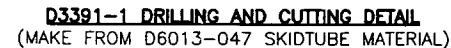
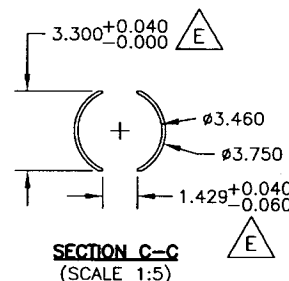
QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
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	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
1	1	D3564-13	WEARSHOE
1	1	D3566-13	GASKET
10	10	AN3C4A	BOLT
4	4	NAS1515H3L	WASHER
10	10	AN980C10L	WASHER
30	20	NAS1330S3KB166	INSERT (OR NAS1330C3KB166)

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WORK ORDER

3166

32591



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PORT HADLOCK, WA

REV. F

SHEET 2 OF 5

SCALE

1-10



D3391-013/-023 MID TUBE ASSEMBLY

1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION

2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER OSI 015

REMOVE 0.030
FROM TOP AND BOTTOM
TO 3.610

SHAW-WALKER
REPLACEMENT

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DART	DART
DRAWING NO.	D3391
TITLE	412 FLOAT SKIDTUBBS

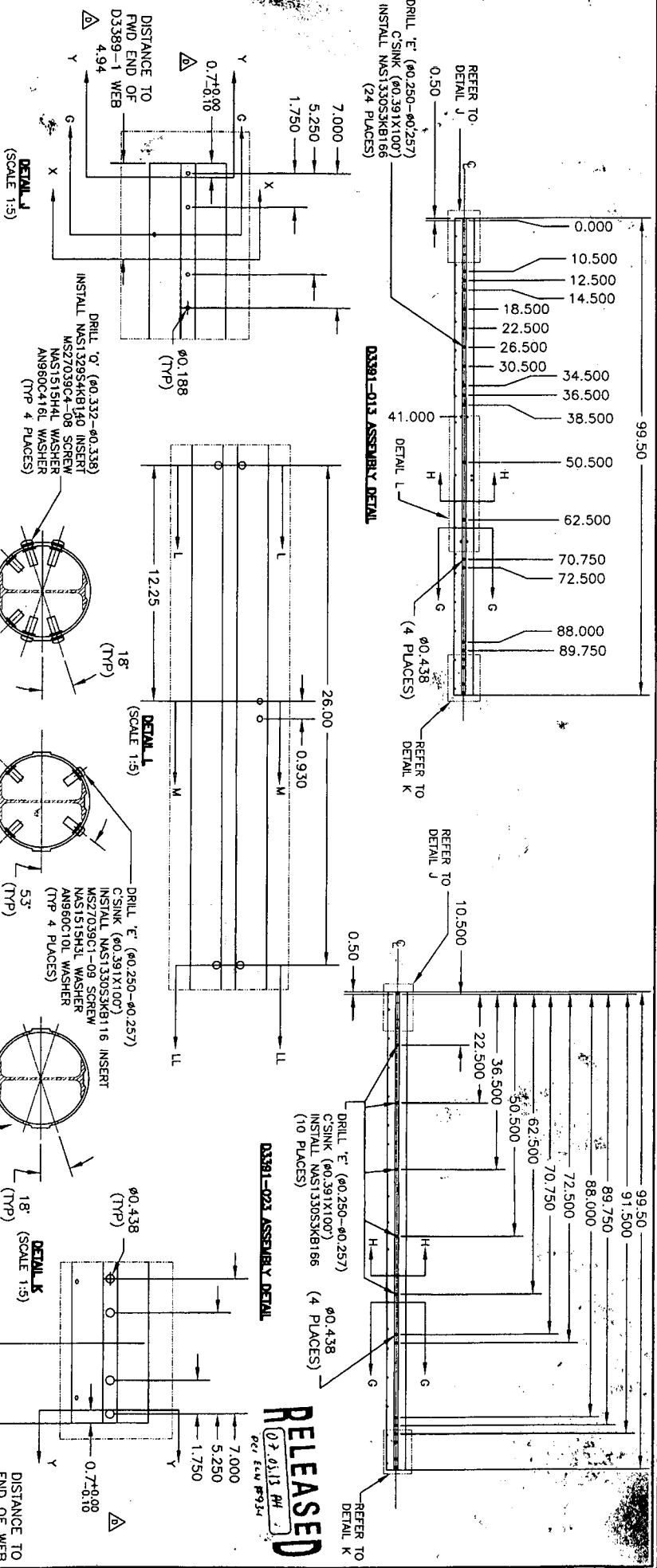
AEROSPACE USA, INC.
PORT HADLOCK, WA

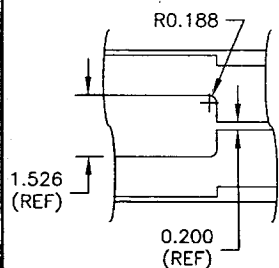
REV. F

SHEET 3 OF 5

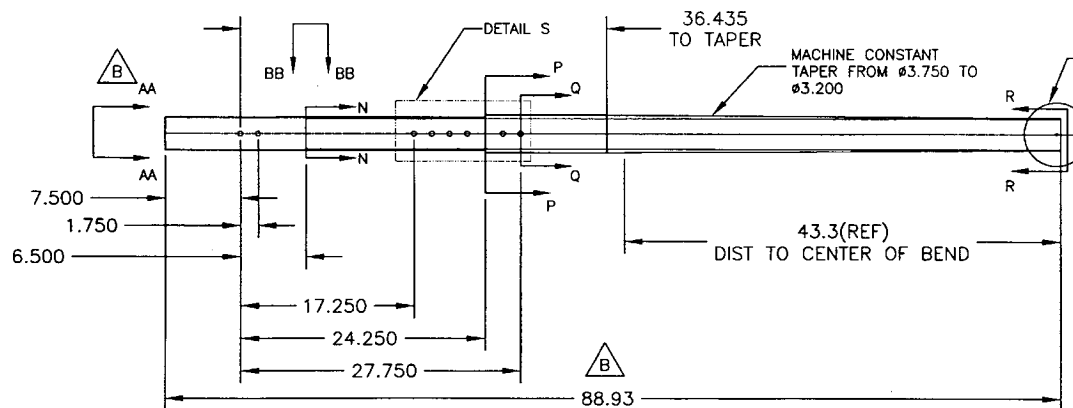
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1:20

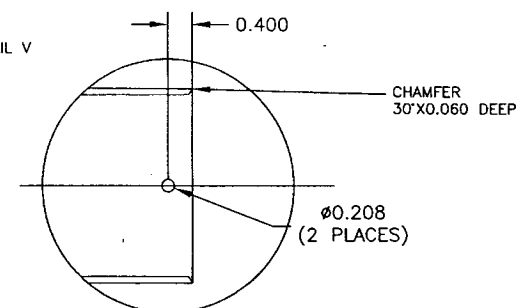




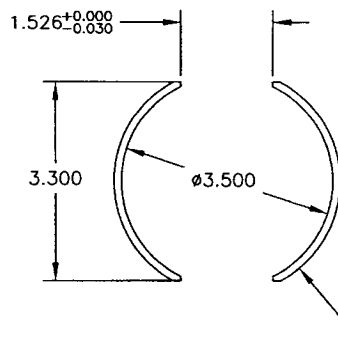
VIEW BB-BB
(SCALE 1:3)



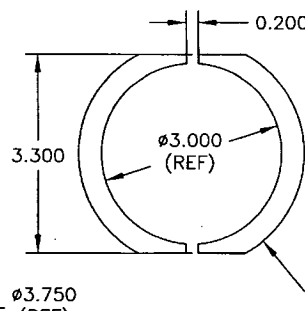
D3391-3 AFT DRILLING AND CUTTING DETAIL
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)



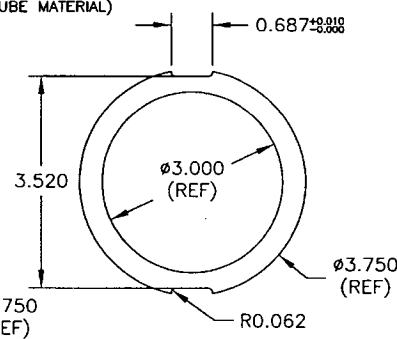
DETAIL V
(SCALE 1:2)



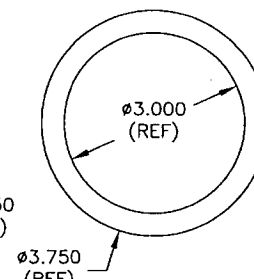
SECTION AA-AA
(SCALE 1:2)



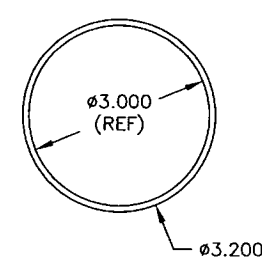
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(SCALE 1:2)



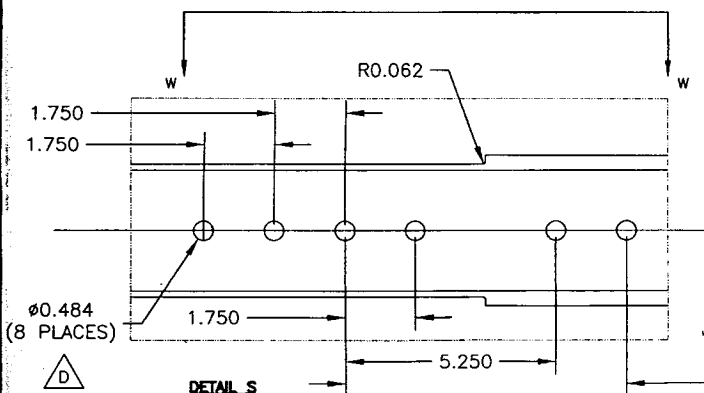
SECTION P-P
(SCALE 1:2)



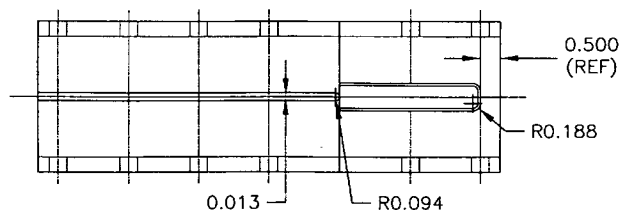
SECTION Q-Q
(SCALE 1:2)



SECTION R-R
(SCALE 1:2)



DETAIL S
(SCALE 1:3)



VIEW W-W
(SCALE 1:3)

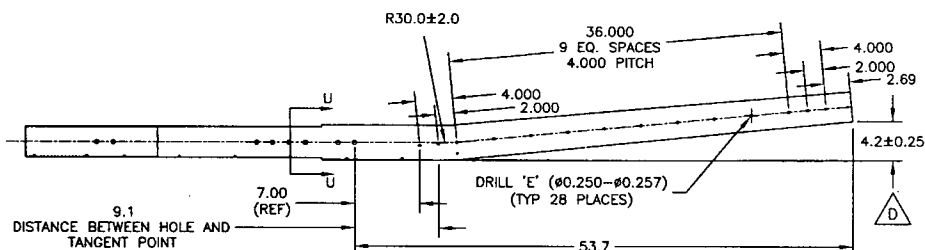
RELEASED
07.03.13 PH
per ECN #934

NO. 32591
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WITHOUT NOTICE
FOR ORDER

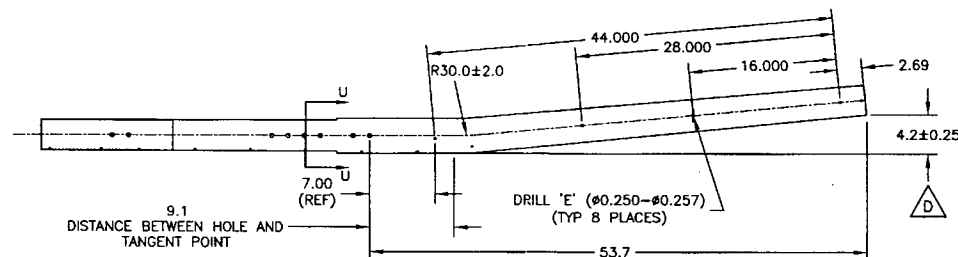
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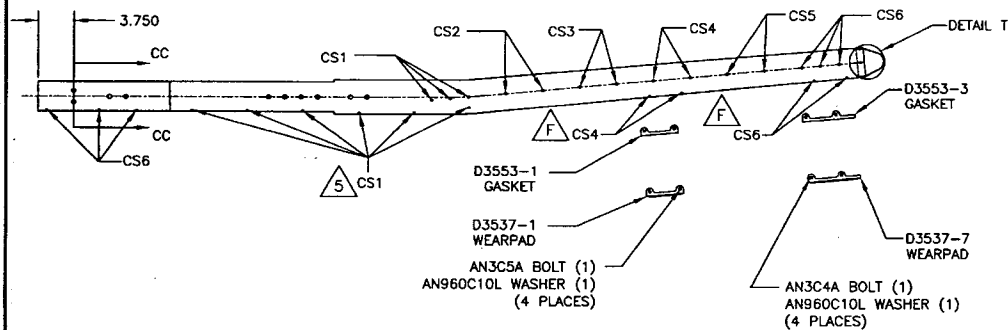
DESIGN PH	DRAWN BY PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, WA	REV. F
CHECKED H	APPROVED H	DRAWING NO. D3391	SHEET 4 OF 5
DATE 07.01.18		TITLE 412 FLOAT SKIDTUBE	SCALE 1:12



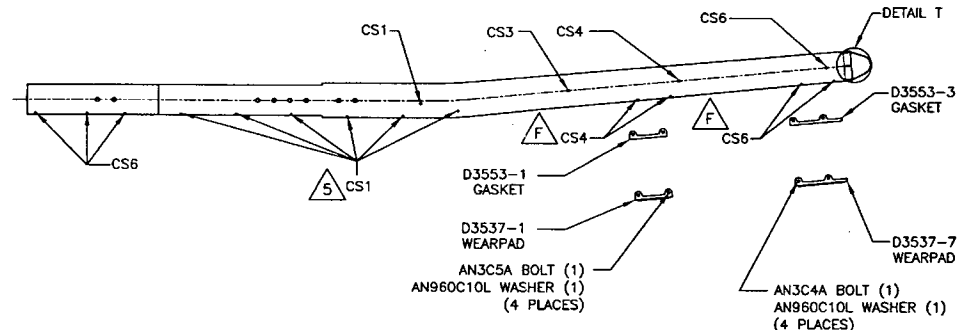
D3391-015 BENDING AND ASSEMBLY DETAIL



D3391-025 BENDING AND ASSEMBLY DETAIL



D3391-015 INSERT AND WEARPAD INSTALLATION DETAIL
(SEE TABLE)

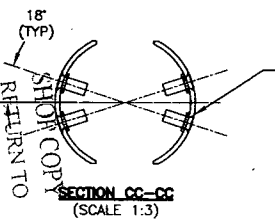


D3391-025 INSERT AND WEARPAD INSTALLATION DETAIL
(SEE TABLE)

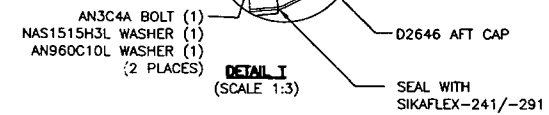
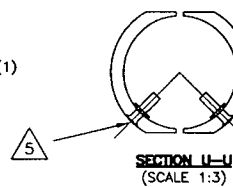
D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X	X	D3391-015	AFT TUBE ASSEMBLY
		D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
18	14	NAS1330S3KB366	INSERT (OR AES10KB366)
4	2	NAS1330S3KB316	INSERT (OR NAS1330C3KB316)
8	6	NAS1330S3KB266	INSERT (OR NAS1330C3KB266)
4		NAS1330S3KB216	INSERT (OR NAS1330C3KB216)
16	12	NAS1330S3KB166	INSERT (OR NAS1330C3KB166)
4		NAS1330S4KB151	INSERT (OR NAS1330C4KB151)
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
2	2	NAS1515H3L	WASHER
10	10	AN960C10L	WASHER

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WITHOUT NOTICE



DRILL 'Q' (#0.332-#0.338)
C'SINK (#0.529X100")
NAS1330S4KB151 INSERT (1)
(4 PLACES)



C'SINK AND INSTALL NAS1330S3KBXXX IN HOLES MARKED CS1-CS6 AS FOLLOWS

HOLES MARKED	QTY D3391-015	QTY D3391-025	C'SINK	P/N
CS1	18	14	Ø0.425	NAS1330S3KB366
CS2	4		Ø0.391	NAS1330S3KB366
CS3	4	2	Ø0.391	NAS1330S3KB316
CS4	8	6	Ø0.391	NAS1330S3KB266
CS5	4		Ø0.391	NAS1330S3KB216
CS6	16	12	Ø0.391	NAS1330S3KB166

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DESIGN PH	DRAWN BY BL	DART DART AEROSPACE USA, INC. PORT HADLOCK, MA	REV. F
CHECKED H	APPROVED H	DRAWING NO. D3391	SHEET 5 OF 5
DATE 07.01.18	TITLE 412 FLOAT SKIDTUBE	SCALE 1:12	

RELEASED
07.03.13 RH
per ECN #934

